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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,305	04/19/2006	Emmanuel Villard	P29172	4486
7055 7590 05/21/2007 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			EXAMINER REDDY, KARUNA P	
			ART UNIT 1713	PAPER NUMBER
			NOTIFICATION DATE 05/21/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/576,305

Applicant(s)

VILLARD ET AL.

Examiner

Karuna P. Reddy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-17 is/are rejected.
- 7) ☒ Claim(s) 2-4, 6, 9, 11 and 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/19/2006

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

1. It is noted that applicant did not provide an English translation of the foreign priority application (France 03 12428).
2. Preliminary amendment filed on July 19, 2006 is made of record. Claims 7-8 are cancelled, claims 1-6 and 9-17 are pending in the application.

Claim Objections

3. Claims 2-4, 6, 9, 11 and 15 are objected to because of the following informalities: Claims 2-3 and 9 recite the term "... **type**..."; claim 4 recites "... **partially**...."; claims 6 and 11 recite the term "... **apparent**...". It is not clear as to what these terms "type, partially and apparent" mean and there is no guidance in the specification to ascertain the meaning. See MPEP § 2173.05(b). The ".... at **last**..." in claim 15 is a typographical error and should read ".... at **least**....".
Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. Claims 1-3, 9-10, 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arfaei et al (US 5, 703, 174) in view of Abrutyn et al (US 4, 885, 127) and Dubey (US 6, 641, 658 B1) and Vassilevsky et al (US 3, 667, 978).

Arfaei et al disclose polymer additives for hydraulic cement composition which impart to the wet cement composition greater plasticity. The superplasticizers have a carbon backbone formed by polymerization of ethylenically unsaturated carboxylic acids, the backbone comprises carboxylic acid grafting sites to which are covalently attached functional side chains that are polyoxyalkylene groups of general formula $R^4-(OA^2)_x-Q$ wherein $A^2 = C_{1-10}$ alkylene and $x = 1$ to 200 (abstract) and reads on the comb polymer of claim 1. The term "cement composition" refers to concrete compositions comprising a hydraulic cement binder (column 3, lines 23-25). The polymers are very effective as superplasticizers when admixed into hydraulic cement composition (column 3, lines 38-40).

The prior art of Arfaei et al is silent with respect to inorganic filler, organic filler and comb polymer being in the form of a bead.

However, Abrutyn et al teach a comb like polymer (column 1, line 21) which is in the form of a free flowing discrete particles ranging in size from fine powders to large beads (column 5, lines 44-45). These free flowing powders are easy to handle and convenient to store (column 6, lines 47-48). In addition, Dubey teaches cementitious composition to produce light weight boards by adding fillers (column 7, line 65-67; column 8, lines 1-3). Furthermore, Vassilevsky et al teach a hydraulic cement composition comprising inorganic and organic fillers such as sand, gravel, cellulose, wood fibers (column 3, lines 73-75; column 4, lines 1-5). Therefore, it would have been obvious to one skilled in the art at the time invention was made to prepare comb polymers of Arfaei et al in the form of beads and add inorganic and organic fillers to derive the above mentioned advantages of easy handling, convenient storage and low weight.

7. Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arfaei et al (US 5, 703, 174) in view of Abrutyn et al (US 4, 885, 127) and Dubey (US 6, 641, 658 B1) and Vassilevsky et al (US 3, 667, 978) as applied to claim 1 above, and further in view of Albright et al (US 6, 930, 133 B2).

The discussion with respect to Arfaei et al in view of Abrutyn et al and Dubey and Vassilevsky et al in paragraph 6 is incorporated herein by reference.

The prior art of Arfaei et al in view of Abrutyn et al and Dubey and Vassilevsky et al is silent with respect to the specific gravity of higher than 0.5 and higher than 0.7.

However, Albright et al disclose polymer beads having a low specific gravity and high strength for applications that require lowering the specific gravity or density of a fluid (column 2, lines 39-42). These may be useful to lighten columns of fluid in order to control the pressures associated with large columns of fluids, including slurries such as cement (column 1, lines 24-26). The specific gravities range from about 0.2 to about 0.9 (column 4, lines 28-29). Therefore, it would have been obvious to one skilled in the art at the time invention was made to prepare polymer beads having a specific gravity of from 0.2 to 0.9 to lower density of the fluid and use it to control the pressure associated with large columns of fluid.

8. Claims 1, 4-5 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsubakimoto et al (JP 57-057706) in view of Abrutyn et al (US 4, 885, 127) and Dubey (US 6, 641, 658 B1) and Vassilevsky et al (US 3, 667, 978).

Tsubakimoto et al teach a comb shaped copolymer with side chains of ethylene oxide adduct and is obtained by copolymerizing polymethylene glycol mono allyl ether with a maleic acid monomer (abstract). The copolymer shows excellent performance in wide range of uses such as dispersing agent for pigment, builder for detergent and cement mixing additive.

The prior art of Tsubakimoto et al is silent with respect to addition of inorganic filler, organic filler and comb polymer being in the form of a bead.

However, Abrutyn et al teach a comb like polymer (column 1, line 21) which is in the form of a free flowing discrete particles ranging in size from fine powders to large beads (column 44-45). These free flowing powders are easy to handle and convenient to store (column 6, lines 47-48). In addition, Dubey teaches cementitious composition to produce light weight boards by adding fillers (column 7, line 65-67; column 8, lines 1-3). Furthermore, Vassilevsky et al teach a hydraulic cement composition comprising inorganic and organic fillers such as sand, gravel, cellulose, wood fibers (column 3, lines 73-75; column 4, lines 1-5). Therefore, it would have been obvious to one skilled in the art at the time invention was made to prepare comb polymers of Tsubakimoto et al in the form of beads and add inorganic and organic fillers to derive the above mentioned advantages of easy handling, convenient storage and light weight.

Conclusion

The "X" reference from the international search report has been considered. However, the "X" reference is not deemed anticipatory and is combined with another reference to do an obviousness rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karuna P. Reddy whose telephone number is (571) 272-6566.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax

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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karuna P Reddy
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Art Unit 1713



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